

Remarks

Claims 1-19 are pending in this application and of which claims 1-19 stand rejected. As a result, Applicant has cancelled claims 1 -19 and recast new claims 20 - 43 as set forth above to more particularly point out and distinctly claim the subject matter of the invention. Applicant submits that in view of the above amendments the rejections are moot and respectfully requests favorable consideration and allowance of the claims for the following cogent reasons.

Drawings

The Examiner objects to the drawings indicating that figure 2 is a photograph not of sufficient quality. Applicant provides with this response a photograph of sufficient quality and respectfully requests that the objection to the drawing be withdrawn.

Information Disclosure Statement

Applicant notes the documents cited in the information disclosure statement have been considered by the Examiner and signed on March 15, 2004.

Applicant's Invention

Applicant's invention deals with a method for manufacturing a touch sensitive navigational surface for a communication device and a related communication device having a touch sensitive navigational surface wherein the communication device has a cover for carrying the appropriate circuitry for carrying out the intended function of the communication device wherein the cover includes an outer wall surface portion. An electromechanical dielectric (EMD) film is molded along with the cover using a suitable injection molding process such that the EMD film outer surface and the outer wall surface of the molded cover are co-extensive with

one another. A thin flexible polymer layer is molded over the outer wall surface of the cover and the EMD film thereby forming and defining an integral unit. Accordingly, the invention provides a method for manufacturing a touch sensitive navigational surface for a communication device wherein the EMD film and cover are manufactured at the same time through an injection molding process wherein the EMD film and cover are constructed as an integral unit.

The Cited References

In contrast, the references cited by the Examiner deal with an assembly of two or more components to produce a flexible substrate transducer assembly suitable for integration within the compact electronic equipment. The Examiner alleges that the step for providing an EMD film co-extensive with at least a portion of the surface of the cover of the communication device is equivalent to the flexible member 40 as illustrated in Figs. 1 and 2A-2B of the Halteren et al. U.S. Patent No. 6,324,907. Applicant refers the Examiner to column 8, lines 34-44 where it is clearly seen that the flexible member 40 is made of a succession of built up layers leaving exposed areas for providing electrical contacts to convey transducer signals and power supply voltages is between the flexible member substrate transducer assembly 10 and the housing of the electronic equipment holding the assembly 10. The Examiner is also respectfully referred to column 3, lines 32-37 where it is seen that the flexible member is used to convey electrical signals generated by the transducer system to the exposed parts located in the end of the member and the exposed parts are connected to corresponding terminals in the piece of electronic equipment incorporating the flexible member substrate transducer assembly. The flexible

member does not and cannot act and provide the function of the EMD film and accordingly, cannot anticipate the present invention. Accordingly, Applicant respectfully submits that the Halteren et al. device is an assembly of a component and is patentably and technically distinguishable from Applicant's invention.

Further, Applicant submits that the references cited by the Examiner do not teach, suggest or disclose a method for manufacturing a touch sensitive navigational surface for a communication device wherein the EMD film is molded with the cover using an injection molding process such that the EMD film outer surface and the outer wall surface of the molded cover are co-extensive with one another nor is such injection molding suggested, taught or disclosed by the references. For example, the Halteren et al. reference specifically restricts the materials utilized to metals such as copper, iron, steel, silver, gold, tin and aluminum or other electrically conductive materials such as an electrical conductive polymer.

Likewise, the Ojala et al. U.S. Patent No. 5,917,437 discloses an EMF film in a sandwich type assembly made of multiple structures. The keyboard disclosed in U.S. Patent No. 5,917,437 is of a distinguishable construction relative to the present invention as can be seen from the above remarks. Applicant does not dispute that the electromechanical dielectric (EMD) film utilized in carrying out the present invention is known as set forth in the applicant's disclosure. However, as also clearly pointed out in the Ojala et al. U.S. Patent No. 5,917,437 at column 1, lines 48-52, the disadvantage of polypropene-based EMF is its poor mechanical durability and therefore Ojala proposes a solution at column 1, lines 51-57 by providing a protective relatively

stiff and massive cover plate. The Ojala disclosure continues by providing examples of a sandwich-type construction wherein the EMF is presented in a sandwich-type keyboard structure, for example, column 3, lines 40-43, lines 47-50 and other laminated structures utilizing glue such as epoxy as described for example at column 4, lines 9-15, lines 24-30.

In contrast, applicant teaches and discloses that EMD film is advantageously utilized in injection molding and provides a method of construction utilizing such EMD film for example at page 8, lines 10-11; page 8, lines 18 through page 9, line 2. In further contrast to the references, Applicant also points to an exemplary embodiment advantageously utilizing the film as an insert in an injection molding process that provides tactile domes in contact with the surface of the EMD film page 9, lines 13-23. Applicant suggests that such usage of EMD film as an insert in injection molding is not known in the art particularly in view of Ojala's admissions at column 1, lines 55-57 that an advantageous solution is obtained by combining said flexible light weight construction with a relatively stiff and massive cover plate.

Applicant also considers it important to note and point out that in applicant's invention, the EMD film is a separate user interface element that is molded inside the plastics and is thus hermetically sealed and insulated as a benefit of the injection molding. Further, injection molding the EMD film greatly simplifies the assembly and permits the EMD film element to function as a sensor such as a loud speaker, microphone, contact, and the like. Additionally, applicant's approach utilizing EMD film with injection molding advantageously provides the only viable mass production technique utilizing such EMD film.

Applicant respectfully submits that there is no teaching, disclosure or suggestion in the references that the EMF film is injection molded with the structures to provide a touch sensitive navigational surface for a communication device.

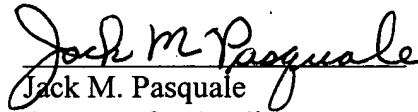
Conclusion

In view of the above amendment and remarks, Applicant respectfully submits that the claims of the application are clearly patentably distinguishable over the cited prior art and earnestly solicits allowance of the claims and this application at an early date.

Applicant requests that the Examiner contact Applicant's attorney at the below listed number should there be any questions regarding the above amendments or other matters associated with this response.

Respectfully submitted,

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